

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today
(1) was not written for publication in a law journal and
(2) is not binding precedent of the Board.

Paper No. 14

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HITOSHI MOTOSE

Appeal No. 1997-2964
Application 08/531,103¹

HEARD: Nov. 4, 1999

Before ABRAMS, STAAB, and GONZALES, Administrative Patent Judges.

ABRAMS, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the decision of the examiner finally rejecting claims 1-7, which constitute all of the claims of record in the application.

¹Application for patent filed September 20, 1995.

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The appellant's invention is directed to a throttle valve arrangement for an internal combustion engine. The claims before us on appeal have been reproduced in an appendix to the Brief.

THE REFERENCES

The references relied upon by the examiner to support the final rejection are:

Lamm	3,620,195	Nov. 16, 1971
Ishida et al. (Ishida)	4,462,358	Jul. 31, 1984

THE REJECTION

Claims 1-7 stand rejected under 35 U.S.C. § 103 as being unpatentable over Lamm in view of Ishida.

Rather than attempt to reiterate the examiner's full commentary with regard to the above-noted rejection and the conflicting viewpoints advanced by the examiner and the appellant regarding the rejection, we make reference to the final rejection (Paper No. 7) for the reasoning in support of the rejections, and to the Appellant's Brief (Paper No. 9), for the opposing viewpoints.

OPINION

The Examiner's Rejection

The test for obviousness is what the combined teachings of the prior art would have suggested to one of ordinary skill in the art. See, for example, ***In re Keller***, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). In establishing a *prima facie* case of obviousness, it is incumbent upon the examiner to provide a reason why one of ordinary skill in the art would have been led to modify a prior art reference or to combine reference teachings to arrive at the claimed invention. See ***Ex parte Clapp***, 227 USPQ 972, 973 (Bd. Pat. App. & Int. 1985). To this end, the requisite motivation must stem from some teaching, suggestion or inference in the prior art as a whole or from the knowledge generally available to one of ordinary skill in the art and not from the appellant's disclosure. See, for example, ***Uniroyal, Inc. v. Rudkin-Wiley Corp.***, 837 F.2d 1044, 1052, 5 USPQ2d 1434, 1439 (Fed. Cir.), *cert. denied*, 488 U.S. 825 (1988).

The appellant's invention is directed to the control of the intake air that is supplied to an internal combustion engine. As explained in the opening pages of the specification, at engine idle a minimum amount of combustion air is needed, which must increase as the engine is throttled up to higher speeds. As the appellant points out, conventional butterfly throttle valves are essentially closed at idle, and during the first portion of the rotative opening of the valve incremental changes in the angular position result in a nonlinear increase in air flow, which is disadvantageous. The appellant's invention solves the problem of precisely controlling the flow of air through a butterfly throttle valve during the initial portion of its opening movement.

As manifested in claim 1, the invention comprises a throttle valve having a peripheral configuration that prevents flow through the induction passage when the valve is in the closed position at an angle in the range of two to twelve degrees to the flow through the induction passage, and means for providing bypass air flow past the throttle valve for at least engine idle air flow when the throttle valve is in the

closed position. It is the examiner's view that the subject matter of claim 1 is rendered obvious by the combined teachings of Lamm and Ishida.

Lamm is directed to a throttle valve system for a rotary piston type of internal combustion engine. This reference discloses an intake passage (2) within which is positioned a butterfly throttle valve (5). At idle, twenty percent of the intake air flows through a bypass channel (7) and eighty percent flows through openings (10 and 11) in the throttle valve itself. While the Lamm throttle valve is at an angle to the flow of air when in the position shown in Figure 1, there is no mention in the patent of the magnitude of that angle. Thus, insofar as the subject matter of claim 1 is concerned, Lamm fails explicitly to teach the claimed angle of the throttle valve.

Ishida is concerned with the same problem as the appellant; however, he solves it in a different fashion. As compared to the prior art throttle valve (Figure 1), Ishida's valve (Figure 2), to which the examiner apparently is referring in the rejection, is thicker, is provided with a rounded configuration on its periphery, and specifically is

arranged so as not to completely close the induction passage (column 2, lines 5-9). Ishida teaches that the throttle valve be oriented at less than 5 degrees to the airflow at idle, whereupon the inventive structure provides optimum idle airflow and also solves the problem of nonlinear air flow during the initial portion of rotation of the valve (column 2, line 9 et seq.).

It is axiomatic that the mere fact that the prior art structure could be modified does not make such a modification obvious unless the prior art suggests the desirability of doing so. See ***In re Gordon***, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). This is where the examiner's rejection is defective. The examiner has not explained exactly what modification he would make to the Lamm structure, where such is found in Ishida, and where one of ordinary skill in the art would have found the suggestion to do so, being content merely to point out that Ishida recognizes that airflow is nonlinear during the initial opening from idle, from which he concludes that incorporation of some unspecified teaching of Ishida would be an improvement (Paper No. 7, page 3). However, we are not persuaded by the examiner's presentation, in view of

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the fact that it would appear not to solve any problem present in Lamm or improve upon the operation of the Lamm valve. This being the case, it is our conclusion that the references as applied fail to establish a *prima facie* case of obviousness with regard to the subject matter recited in independent claim 1. We therefore will not sustain the examiner's rejection of claim 1 or, it follows, of claims 2-7, which depend therefrom.

*New Rejection By The Board
Of Patent Appeals and Interferences*

Pursuant to our authority under 37 CFR § 1.196(b), we enter the following new rejection:

Claims 1-7 are rejected under 35 U.S.C. § 103 as being unpatentable over Lamm in view of Ishida. While this rejection utilizes the same references as the examiner's rejection, it is based upon different rationale, and therefore is presented as a new rejection.

As is independent claim 1, Lamm is directed to a throttle valve arrangement for an internal combustion engine. Using the language of claim 1 as a guide, Lamm discloses a butterfly-type throttle valve (5) supported for rotation on an axis in an induction passage (2), and having a peripheral

configuration which is substantially complementary to the shape of the induction passage when the throttle valve is in the idle position (Figures 1 and 2). One of ordinary skill in that art would have understood that when the valve is in the idle position air flow is prevented between the periphery of the valve and the induction passage because Lamm states that 20% of the idle airflow passes through the idling channel (8) and the remaining 80% flows through the openings (10 & 11) in the throttle valve (column 3, lines 3-12). Lamm discloses the required means for providing a bypass air flow past the throttle valve for at least engine idle air flow, in the form of the above-mentioned bypass conduit and the openings in the throttle valve itself. Claim 1 also requires that when in the idle position the throttle valve be at an angle in the range of about two degrees to twelve degrees to a plane perpendicular to the airflow through the induction passage. There is no explicit disclosure in Lamm of any specific value for the angle of the throttle valve at idle, although from the showing of Figure 1 the throttle valve would appear to be within the claimed range.

As we noted above, Ishida recognizes the problem of nonlinear air flow in the early stages of throttle valve rotation, and solves it in a manner different from that of the appellant's invention. In addition to describing his invention, however, Ishida discusses the state of the prior art, pointing out that it was known for the angle of the closed throttle valve to be in a range of five to twenty degrees (column 1, line 16 *et seq.*), which overlaps the range of two to twelve degrees set forth in the appellant's claims 1, 4 and 5. From our perspective, therefore, to the extent that Lamm would not explicitly have taught one of ordinary skill in the art to orient the throttle valve to the claimed values, suggestion for doing so is provided by Ishida's discussion of what was conventional in the prior art at the time of his invention.

The subject matter set forth in claims 2 and 6 clearly is disclosed by Lamm. As for claims 3 and 7, Lamm indicates that with increasing opening of the throttle valve, the effect of the openings diminishes which, of course, is because the effective area of the openings decreases as the throttle valve

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is pivoted from the idle position (see column 3, lines 29-32).

For the reasons explained above, the combined teachings of Lamm and Ishida establish a *prima facie* case of obviousness with regard to the subject matter recited in claims 1-7.

In making the above rejection, we have carefully considered the arguments presented by the appellant with regard to the examiner's rejection. However, they have not persuaded us that this new rejection should not be entered. It should be recognized that the appellant's claims do not exclude rotary internal combustion engines or engines in which the means for providing idle bypass air flow includes a separate channel in addition to the openings in the throttle valve, as is the case with Lamm.

SUMMARY

The examiner's rejection of claims 1-7 is not sustained and thus the decision of the examiner is reversed.

Pursuant to 37 CFR § 1.196(b) a new rejection of claims 1-7 has been entered.

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This decision contains a new ground of rejection pursuant to 37 CFR § 1.196(b)(amended effective Dec. 1, 1997, by final rule notice, 62 Fed. Reg. 53,131, 53,197 (Oct. 10, 1997), 1203 Off. Gaz. Pat. & Trademark Office 63, 122 (Oct. 21, 1997)).

37 CFR

§ 1.196(b) provides that, "A new rejection shall not be considered final for purposes of judicial review."

37 CFR § 1.196(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of proceedings (§ 1.197(c)) as to the rejected claims:

(1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the application will be remanded to the examiner. . . .

(2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record. . . .

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No time period for taking any subsequent action in
connection with this appeal may be extended under 37 CFR
§ 1.136(a).

REVERSED § 1.196(b)

	Neal E. Abrams)	
	Administrative Patent Judge)	
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	Lawrence J. Staab)	BOARD OF
PATENT	Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
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